RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/781,796B

DATE: 06/06/2002
TIME: 15:05:54

Input Set : A:\EP.txt
Output Set: N:\CRF3\06062002\I781796B.raw

P.6

```
 3 <110> APPLICANT: BEAUDOIN, Adrien R.
 4         SVIGNY, Jean
 5         BACH, Fritz H.
 6         ROBSON, Simon
 8 <120> TITLE OF INVENTION: ATP-DIPHOSPHOHYDROLASES, PROCESS OF PURIFICATION
 9         THEREOF AND PROCESS OF PRODUCING THEREOF BY RECOMBINANT
10         TECHNOLOGY
12 <130> FILE REFERENCE: 920333.90019
14 <140> CURRENT APPLICATION NUMBER: 09/781,796B
15 <141> CURRENT FILING DATE: 2001-02-12
17 <150> PRIOR APPLICATION NUMBER: 08/419,204
18 <151> PRIOR FILING DATE: 1995-04-10
20 <150> PRIOR APPLICATION NUMBER: CA96/00223
21 <151> PRIOR FILING DATE: 1996-04-10
23 <150> PRIOR APPLICATION NUMBER: 08/930,921
24 <151> PRIOR FILING DATE: 1998-02-01
26 <160> NUMBER OF SEQ ID NOS: 8
28 <170> SOFTWARE: PatentIn Ver. 2.1
30 <210> SEQ ID NO: 1
31 <211> LENGTH: 510
32 <212> TYPE: PRT
33 <213> ORGANISM: Homo sapiens
35 <400> SEQUENCE: 1
36 Met Glu Asp Thr Lys Glu Ser Asn Val Lys Thr Phe Cys Ser Lys Asn
37   1               5                  10                  15
39 Ile Leu Ala Ile Leu Gly Phe Ser Ser Ile Ile Ala Val Ile Ala Leu
40              20                  25                  30
42 Leu Ala Val Gly Leu Thr Gln Asn Lys Ala Leu Pro Glu Asn Val Lys
43          35                  40                  45
45 Tyr Gly Ile Val Leu Asp Ala Gly Ser Ser His Thr Ser Leu Tyr Ile
46      50                  55                  60
48 Tyr Lys Trp Pro Ala Glu Lys Glu Asn Asp Thr Gly Val Val His Gln
49  65                  70                  75                  80
51 Val Glu Glu Cys Arg Val Lys Gly Pro Gly Ile Ser Lys Phe Val Gln
52              85                  90                  95
54 Lys Val Asn Glu Ile Gly Ile Tyr Leu Thr Asp Cys Met Glu Arg Ala
55             100                 105                 110
57 Arg Glu Val Ile Pro Arg Ser Gln His Gln Glu Thr Pro Val Tyr Leu
58             115                 120                 125
60 Gly Ala Thr Ala Gly Met Arg Leu Leu Arg Met Glu Ser Glu Glu Leu
61         130                 135                 140
63 Ala Asp Arg Val Leu Asp Val Val Glu Arg Ser Leu Ser Asn Tyr Pro
64 145                 150                 155                 160
```

ENTERED

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/781,796B

DATE: 06/06/2002
TIME: 15:05:54

Input Set : A:\EP.txt
Output Set: N:\CRF3\06062002\I781796B.raw

```
66 Phe Asp Phe Gln Gly Ala Arg Ile Ile Thr Gly Gln Glu Glu Gly Ala
67                165                170                175
69 Tyr Gly Trp Ile Thr Ile Asn Tyr Leu Leu Gly Lys Phe Ser Gln Lys
70                180                185                190
72 Thr Arg Trp Phe Ser Ile Val Pro Tyr Glu Thr Asn Asn Gln Glu Thr
73                195                200                205
75 Phe Gly Ala Leu Asp Leu Gly Gly Ala Ser Thr Gln Val Thr Phe Val
76      210                215                220
78 Pro Gln Asn Gln Thr Ile Glu Ser Pro Asp Asn Ala Leu Gln Phe Arg
79 225                230                235                240
81 Leu Tyr Gly Lys Asp Tyr Asn Val Tyr Thr His Ser Phe Leu Cys Tyr
82                245                250                255
84 Gly Lys Asp Gln Ala Leu Trp Gln Lys Leu Ala Lys Asp Ile Gln Val
85                260                265                270
87 Ala Ser Asn Glu Ile Leu Arg Asp Pro Cys Phe His Pro Gly Tyr Lys
88                275                280                285
90 Lys Val Val Asn Val Ser Asp Leu Tyr Lys Thr Pro Cys Thr Lys Arg
91      290                295                300
93 Phe Glu Met Thr Leu Pro Phe Gln Gln Phe Glu Ile Gln Gly Ile Gly
94 305                310                315                320
96 Asn Tyr Gln Gln Cys His Gln Ser Ile Leu Glu Leu Phe Asn Thr Ser
97                325                330                335
99 Tyr Cys Pro Tyr Ser Gln Cys Ala Phe Asn Gly Ile Phe Leu Pro Pro
100               340                345                350
102 Leu Gln Gly Asp Phe Gly Ala Phe Ser Ala Phe Tyr Phe Val Met Lys
103               355                360                365
105 Phe Leu Asn Leu Thr Ser Glu Lys Val Ser Gln Glu Lys Val Thr Glu
106      370                375                380
108 Met Met Lys Lys Phe Cys Ala Gln Pro Trp Glu Glu Ile Lys Thr Ser
109 385                390                395                400
111 Tyr Ala Gly Val Lys Glu Lys Tyr Leu Ser Glu Tyr Cys Phe Ser Gly
112               405                410                415
114 Thr Tyr Ile Leu Ser Leu Leu Leu Gln Gly Tyr His Phe Thr Ala Asp
115               420                425                430
117 Ser Trp Glu His Ile His Phe Ile Gly Lys Ile Gln Gly Ser Asp Ala
118      435                440                445
120 Gly Trp Thr Leu Gly Tyr Met Leu Asn Leu Thr Asn Met Ile Pro Ala
121      450                455                460
123 Glu Gln Pro Leu Ser Thr Pro Leu Ser His Ser Thr Tyr Val Phe Leu
124 465                470                475                480
126 Met Val Leu Phe Ser Leu Val Leu Phe Thr Val Ala Ile Ile Gly Leu
127               485                490                495
129 Leu Ile Phe His Lys Pro Ser Tyr Phe Trp Lys Asp Met Val
130               500                505                510
133 <210> SEQ ID NO: 2
134 <211> LENGTH: 1818
135 <212> TYPE: PRT
136 <213> ORGANISM: Homo sapiens
138 <400> SEQUENCE: 2
```

```
139 Ala Cys Cys Ala Cys Ala Cys Cys Ala Ala Gly Cys Ala Gly Cys Gly
140   1               5                   10                  15
142 Gly Cys Thr Gly Gly Gly Gly Gly Gly Gly Gly Gly Ala Ala Ala Gly
143             20                  25                  30
145 Ala Cys Gly Ala Gly Gly Ala Ala Ala Gly Ala Gly Gly Ala Gly Gly
146         35                  40                  45
148 Ala Ala Ala Ala Cys Ala Ala Ala Ala Gly Cys Thr Gly Cys Thr Ala
149     50                  55                  60
151 Cys Thr Thr Ala Thr Gly Gly Ala Ala Gly Ala Thr Ala Cys Ala Ala
152 65                  70                  75                  80
154 Ala Gly Gly Ala Gly Thr Cys Thr Ala Ala Cys Gly Thr Gly Ala Ala
155                 85                  90                  95
157 Gly Ala Cys Ala Thr Thr Thr Thr Gly Cys Thr Cys Cys Ala Ala Gly
158         100                 105                 110
160 Ala Ala Thr Ala Thr Cys Cys Thr Ala Gly Cys Cys Ala Thr Cys Cys
161     115                 120                 125
163 Thr Thr Gly Gly Cys Thr Thr Cys Thr Cys Cys Thr Cys Thr Ala Thr
164     130                 135                 140
166 Cys Ala Thr Ala Gly Cys Thr Gly Thr Gly Ala Thr Ala Gly Cys Thr
167 145                 150                 155                 160
169 Thr Thr Gly Cys Thr Thr Gly Cys Thr Gly Thr Gly Gly Gly Gly Thr
170             165                 170                 175
172 Thr Gly Ala Cys Cys Cys Ala Gly Ala Ala Cys Ala Ala Ala Gly Cys
173         180                 185                 190
175 Ala Thr Thr Gly Cys Cys Ala Gly Ala Ala Ala Ala Cys Gly Thr Thr
176     195                 200                 205
178 Ala Ala Gly Thr Ala Thr Gly Gly Gly Ala Thr Thr Gly Thr Gly Cys
179     210                 215                 220
181 Thr Gly Gly Ala Thr Gly Cys Gly Gly Gly Thr Thr Cys Thr Thr Cys
182 225                 230                 235                 240
184 Thr Cys Ala Cys Ala Cys Ala Ala Gly Thr Thr Thr Ala Thr Ala Cys
185                 245                 250                 255
187 Ala Thr Cys Thr Ala Thr Ala Ala Gly Thr Gly Gly Cys Cys Ala Gly
188             260                 265                 270
190 Cys Ala Gly Ala Ala Ala Ala Gly Gly Ala Gly Ala Ala Thr Gly Ala
191     275                 280                 285
193 Cys Ala Cys Ala Gly Gly Cys Gly Thr Gly Gly Thr Gly Cys Ala Thr
194     290                 295                 300
196 Cys Ala Ala Gly Thr Ala Gly Ala Ala Gly Ala Ala Thr Gly Cys Ala
197 305                 310                 315                 320
199 Gly Gly Gly Thr Thr Ala Ala Ala Gly Gly Thr Cys Cys Thr Gly Gly
200             325                 330                 335
202 Ala Ala Thr Cys Thr Cys Ala Ala Ala Ala Thr Thr Thr Gly Thr Thr
203         340                 345                 350
205 Cys Ala Gly Ala Ala Ala Gly Thr Ala Ala Ala Thr Gly Ala Ala Ala
206     355                 360                 365
208 Thr Ala Gly Gly Cys Ala Thr Thr Thr Ala Cys Cys Thr Gly Ala Cys
209 370                 375                 380
211 Thr Gly Ala Thr Thr Gly Cys Ala Thr Gly Gly Ala Ala Ala Gly Ala
```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/781,796B

DATE: 06/06/2002
TIME: 15:05:54

Input Set : A:\EP.txt
Output Set: N:\CRF3\06062002\I781796B.raw

```
                                                         400
212 385                    390            395
214 Gly Cys Thr Ala Gly Gly Gly Ala Ala Gly Thr Gly Ala Thr Thr Cys
215              405                   410                   415
217 Cys Ala Ala Gly Gly Thr Cys Cys Cys Ala Gly Cys Ala Cys Cys Ala
218              420                   425                   430
220 Ala Gly Ala Gly Ala Cys Ala Cys Cys Cys Gly Thr Thr Thr Ala Cys
221         435                   440                   445
223 Cys Thr Gly Gly Gly Ala Gly Cys Cys Ala Cys Gly Gly Cys Ala Gly
224    450                   455                   460
226 Gly Cys Ala Thr Gly Cys Gly Gly Thr Thr Gly Cys Thr Cys Ala Gly
227 465                   470                   475                   480
229 Gly Ala Thr Gly Gly Ala Ala Ala Gly Thr Gly Ala Ala Gly Ala Gly
230              485                   490                   495
232 Thr Thr Gly Gly Cys Ala Gly Ala Cys Ala Gly Gly Gly Thr Thr Cys
233         500                   505                   510
235 Thr Gly Gly Ala Thr Gly Thr Gly Gly Thr Gly Gly Ala Gly Ala Gly
236         515                   520                   525
238 Gly Ala Gly Cys Cys Thr Cys Ala Gly Cys Ala Ala Cys Thr Ala Cys
239    530                   535                   540
241 Cys Cys Cys Thr Thr Thr Gly Ala Cys Thr Thr Cys Cys Ala Gly Gly
242 545                   550                   555                   560
244 Gly Thr Gly Cys Cys Ala Gly Gly Ala Thr Cys Ala Thr Thr Ala Cys
245              565                   570                   575
247 Thr Gly Gly Cys Cys Ala Ala Gly Ala Gly Gly Ala Ala Gly Gly Thr
248         580                   585                   590
250 Gly Cys Cys Thr Ala Thr Gly Gly Cys Thr Gly Gly Ala Thr Thr Ala
251    595                   600                   605
253 Cys Thr Ala Thr Cys Ala Ala Cys Thr Ala Thr Cys Thr Gly Cys Thr
254    610                   615                   620
256 Gly Gly Gly Cys Ala Ala Ala Thr Thr Cys Ala Gly Thr Cys Ala Gly
257 625                   630                   635                   640
259 Ala Ala Ala Ala Cys Ala Ala Gly Gly Thr Gly Gly Thr Thr Cys Ala
260              645                   650                   655
262 Gly Cys Ala Thr Ala Gly Thr Cys Cys Cys Ala Thr Ala Thr Gly Ala
263         660                   665                   670
265 Ala Ala Cys Cys Ala Ala Thr Ala Ala Thr Cys Ala Gly Gly Ala Ala
266    675                   680                   685
268 Ala Cys Cys Thr Thr Thr Gly Gly Ala Gly Cys Thr Thr Thr Gly Gly
269    690                   695                   700
271 Ala Cys Cys Thr Thr Gly Gly Gly Gly Gly Ala Gly Cys Cys Thr Cys
272 705              710                   715                   720
274 Thr Ala Cys Ala Cys Ala Ala Gly Thr Cys Ala Cys Thr Thr Thr Thr
275              725                   730                   735
277 Gly Thr Ala Cys Cys Cys Cys Ala Ala Ala Ala Cys Cys Ala Gly Ala
278    740                   745                   750
280 Cys Thr Ala Thr Cys Gly Ala Gly Thr Cys Cys Cys Cys Ala Gly Ala
281    755                   760                   765
283 Thr Ala Ala Thr Gly Cys Thr Cys Thr Gly Cys Ala Ala Thr Thr Thr
284    770                   775                   780
```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/781,796B

Input Set : A:\EP.txt
Output Set: N:\CRF3\06062002\I781796B.raw

```
286 Cys Gly Cys Cys Thr Cys Thr Ala Thr Gly Gly Cys Ala Ala Gly Gly
287 785                   790                   795                   800
289 Ala Cys Thr Ala Cys Ala Ala Thr Gly Thr Cys Thr Ala Cys Ala Cys
290                   805                   810                   815
292 Ala Cys Ala Thr Ala Gly Cys Thr Thr Cys Thr Thr Gly Thr Gly Cys
293                   820                   825                   830
295 Thr Ala Thr Gly Gly Gly Ala Ala Gly Gly Ala Thr Cys Ala Gly Gly
296         835                   840                   845
298 Cys Ala Cys Thr Cys Thr Gly Gly Cys Ala Gly Ala Ala Ala Cys Thr
299         850                   855                   860
301 Gly Gly Cys Cys Ala Ala Gly Gly Ala Cys Ala Thr Thr Cys Ala Gly
302 865                   870                   875                   880
304 Gly Thr Thr Gly Cys Ala Ala Gly Thr Ala Ala Thr Gly Ala Ala Ala
305                   885                   890                   895
307 Thr Thr Cys Thr Cys Ala Gly Gly Gly Ala Cys Cys Cys Ala Thr Gly
308                   900                   905                   910
310 Cys Thr Thr Thr Cys Ala Thr Cys Cys Thr Gly Gly Ala Thr Ala Thr
311         915                   920                   925
313 Ala Ala Gly Ala Ala Gly Gly Thr Ala Gly Thr Gly Ala Ala Cys Gly
314         930                   935                   940
316 Thr Ala Ala Gly Thr Gly Ala Cys Cys Thr Thr Thr Ala Cys Ala Ala
317 945                   950                   955                   960
319 Gly Ala Cys Cys Cys Cys Cys Thr Gly Cys Ala Cys Cys Ala Ala Gly
320                   965                   970                   975
322 Ala Gly Ala Thr Thr Thr Gly Ala Gly Ala Thr Gly Ala Cys Thr Cys
323         980                   985                   990
325 Thr Thr Cys Cys Ala Thr Thr Cys Cys Ala Gly Cys Ala Gly Thr Thr
326         995                   1000                  1005
328 Thr Gly Ala Ala Ala Thr Cys Cys Ala Gly Gly Gly Thr Ala Thr Thr
329 1010                  1015                  1020
331 Gly Gly Ala Ala Ala Cys Thr Ala Thr Cys Ala Ala Cys Ala Ala Thr
332 1025                  1030                  1035                  1040
334 Gly Cys Cys Ala Thr Cys Ala Ala Ala Gly Cys Ala Thr Cys Cys Thr
335                   1045                  1050                  1055
337 Gly Gly Ala Gly Cys Thr Cys Thr Thr Cys Ala Ala Cys Ala Cys Cys
338         1060                  1065                  1070
340 Ala Gly Thr Thr Ala Cys Thr Gly Cys Cys Cys Thr Thr Ala Cys Thr
341         1075                  1080                  1085
343 Cys Cys Cys Ala Gly Thr Gly Thr Gly Cys Cys Thr Thr Cys Ala Ala
344         1090                  1095                  1100
346 Thr Gly Gly Gly Ala Thr Thr Thr Thr Cys Thr Thr Gly Cys Cys Ala
347 1105                  1110                  1115                  1120
349 Cys Cys Ala Cys Thr Cys Cys Ala Gly Gly Gly Gly Gly Ala Thr Thr
350                   1125                  1130                  1135
352 Thr Thr Gly Gly Gly Gly Cys Ala Thr Thr Thr Thr Cys Ala Gly Cys
353         1140                  1145                  1150
355 Thr Thr Thr Thr Thr Ala Cys Thr Thr Thr Gly Thr Gly Ala Thr Gly
356         1155                  1160                  1165
358 Ala Ala Gly Thr Thr Thr Thr Thr Ala Ala Ala Cys Thr Thr Gly Ala
```

RAW SEQUENCE LISTING ERROR SUMMARY   DATE: 06/06/2002
PATENT APPLICATION: US/09/781,796B   TIME: 15:05:56

Input Set : A:\EP.txt
Output Set: N:\CRF3\06062002\I781796B.raw

Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing to ensure that a corresponding explanation is presented in the <220>
to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:5; Xaa Pos. 8